Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

External beam radiotherapy (EBRT) for bone metastases: percentage of patients, regardless of age, with a diagnosis of bone metastases and no history of previous radiation who receive EBRT with an acceptable fractionation scheme as defined by the guideline.

Source(s)

American Society for Radiation Oncology (ASTRO). National Quality Measures Clearinghouse (NQMC) measure submission form: external beam radiotherapy for bone metastases. 2017 Feb. 19 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients, regardless of age, with a diagnosis of bone metastases and no history of previous radiation who receive external beam radiation therapy (EBRT) with an acceptable fractionation scheme as defined by the guideline once per reporting period, administered by a physician in an ambulatory care setting.

Rationale

It is estimated that more than 1.6 million new cancer cases are expected to be diagnosed in 2016. Bone metastases, a common manifestation of malignancy, can significantly affect the quality of life for patients by causing debilitating effects including pain, spinal cord compression, hypercalcemia and pathologic fracture. Evidence shows that radiotherapy provides successful palliation of painful bone metastases. External beam radiation therapy (EBRT) can provide significant palliation to painful bone

metastases in 50% to 80% of patients. Although the role of radiation therapy in palliation of bone metastases has been well established, literature shows widespread variation in the practice patterns for using radiation therapy for palliation. Even though several meta-analyses have shown the efficiency of using lower fractionation schedules, there has been a reluctance to adopt them. A most-recent survey studied international practice variations and found doses commonly prescribed ranging from 3Gy/1 fraction to 60Gy/20 fractions. Single fraction treatment was recommended in only 2% to 20% of cases presented in United States.

Numerous prospective randomized and retrospective trials have shown similar pain relief outcomes with shorter EBRT schedules than with longer courses of palliative radiation therapy (RT). The clinical practice guideline on "Palliative Radiotherapy for Bone Metastases" reviewed evidence from nine studies. The guideline states: "Although various fractionation schemes can provide good rates of palliation, numerous prospective randomized trials have shown that 30Gy in 10 fractions, 24Gy in 6 fractions, 20Gy in 5 fractions, or 8Gy in a single fraction can provide excellent pain control and minimal side effects. The longer course has the advantage of lower incidence of repeat treatment to the same site, and the single fraction has proved more convenient for patients and care givers."

Studies assessing patient preferences demonstrated that patients preferred short course treatments for reasons of convenience and fewer intrinsic costs associated with clinical visits.

This measure will monitor the appropriate use of EBRT for qualified patients and impact the quality of care provided to end of life patients needing palliation. This is a process measure intended to close the gap in treatment variation and ensures the use of an appropriate fractionation schedule, as well as prevents the overuse of radiation therapy. Also, the measure takes into account the effective schedule for relieving pain from bone metastases, patient preferences, time, and cost effectiveness.

Evidence for Rationale

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American Society for Radiation Oncology (ASTRO). National Quality Measures Clearinghouse (NQMC) measure submission form: external beam radiotherapy for bone metastases. 2017 Feb. 19 p.

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Primary Health Components

Cancer; bone metastases; external beam radiation therapy (EBRT); fractionation schemes

Denominator Description

All patients with bone metastases and no previous radiation to the same anatomic site who receive external beam radiation therapy (EBRT) for the treatment of bone metastases (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

All patients, regardless of age, with bone metastases and no previous radiation to the same anatomic site who receive external beam radiation therapy (EBRT) for the treatment of bone metastases with any of the following recommended fractionation schemes: 30Gy/10fxns, 24Gy/6fxns, 20Gy/5fxns, 8Gy/1fxn (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A systematic review of the clinical research literature (e.g., Cochrane Review)

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

The face validity of the measure was tested using an online survey data collection instrument. The sample size included 20 radiation oncologists primarily involved in quality improvement and guideline development. Additionally, this project was statistically powered to identify significant differences between levels of the measure's reliability using the kappa statistic. Inter-rater reliability was tested for the critical data elements. Each abstraction tool which created a side-by-side comparison of the two medical records. The abstractors adjudicated any mismatches and after a consensus process that the appropriate answer was selected. A reason code for the mismatch was assigned for that data element.

Evidence for Extent of Measure Testing

American Society for Radiation Oncology (ASTRO). National Quality Measures Clearinghouse (NQMC) measure submission form: external beam radiotherapy for bone metastases. 2017 Feb. 19 p.

National Guideline Clearinghouse Link

Palliative radiation therapy for bone metastases: update of an ASTRO evidence-based guideline.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Individual Clinicians or Public Health Professionals

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

All ages

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Making Quality Care More Affordable
Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality

Report Categories

IOM Care Need

End of Life Care

Getting Better

Living with Illness

IOM Domain

Effectiveness

Efficiency

Data Collection for the Measure

Case Finding Period

The reporting period

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
All patients with bone metastases and no previous radiation to the same anatomic site who receive external beam radiation therapy (EBRT) for the treatment of bone metastases

Exclusions

- The EBRT is used to treat anything other than bone metastases;
- Previous radiation treatment to the same anatomic site (i.e., retreatment);
- Patients who are part of a prospective clinical protocol or registry study involving the administration of radiation therapy, especially stereotactic radiosurgery (SRS) or stereotactic body radiation therapy (SBRT);
- Patients with femoral axis cortical involvement greater than 3 cm in length if the current EBRT is to that femur;

Patients who have undergone a surgical stabilization procedure if at the site of the current EBRT treatment; and
Patients with spinal cord compression, cauda equina compression or radicular pain documented in the chart as related to the bone metastases being treated.
Patient declines treatment

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
All patients, regardless of age, with bone metastases and no previous radiation to the same anatomic site who receive external beam radiation therapy (EBRT) for the treatment of bone metastases with any of the following recommended fractionation schemes: 30Gy/10fxns, 24Gy/6fxns, 20Gy/5fxns, 8Gy/1fxn

Note: Refer to the original measure documentation for specific Current Procedural Terminology (CPT) codes for therapeutic radiology treatment planning in the ambulatory setting and therapeutic radiology treatment delivery in the hospital setting.

Exclusions
Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Electronic health/medical record

Imaging data

Paper medical record

Registry data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

2017 Measure Flow - OP-33: External Beam Radiotherapy for Bone Metastases.

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

External beam radiotherapy for bone metastases.

Measure Collection Name

External Beam Radiotherapy for Bone Metastases

Submitter

American Society for Radiation Oncology - Medical Specialty Society

Developer

American Society for Radiation Oncology - Medical Specialty Society

Funding Source(s)

American Society for Radiation Oncology (ASTRO)

Composition of the Group that Developed the Measure

Anushree Vichare, MBBS MPH, Measures Development Manager, American Society for Radiation Oncology (ASTRO); Emily Wilson, Vice-President, Advocacy & Clinical Affairs Division, ASTRO

Financial Disclosures/Other Potential Conflicts of Interest

None

Measure Initiative(s)

Hospital Compare

Hospital Outpatient Quality Reporting Program

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2017 Feb

Measure Maintenance

Three years

Date of Next Anticipated Revision

Three years from date of submission

Measure Status

This is the current release of the measure.

This measure updates a previous version: American Society for Radiation Oncology (ASTRO). National Quality Measures Clearinghouse (NQMC) measure submission form: external beam radiotherapy for bone metastases. 2012 Aug 9. 18 p.

Measure Availability

Source not available electronically.

For more information, contact the American Society for Radiation Oncology (ASTRO) at 8280 Willow Oaks Corporate Drive, Suite 500, Fairfax, VA 22031; Phone: 703-502-1550; Fax: 703-502-7852; Web site: www.astro.org .

NQMC Status

This NQMC summary was completed by ECRI Institute on February 26, 2014. The information was verified by the measure developer on March 25, 2014.

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Production

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